

In the claims:

Amend claims 4, 6-12, 14, 20, 21, 25 and 28 as follows:

1 1.-3. (Cancelled)

1 4. (Currently Amended) A tissue dissector comprising:

2 an elongated cannula, having a proximal end and a distal end;

3 a tip having tapered outer walls converging to a blunt end for

4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue;

6 a dilating element disposed on the cannula at a location thereon

7 intermediate the distal and proximal ends thereof and having an outer dimension
8 greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating

9 dissected tissue to ~~form a~~ expand a surgical cavity therein; ~~and~~

10 a locking mechanism, positioned near the distal end of the cannula at

11 a location recessed from the tip disposed on the distal end of the cannula; and

12 the dilating element further ~~comprises~~ comprising a mating lock to

13 mate near the distal end with the locking mechanism for positioning the dilating

14 element on the cannula at a location thereon recessed from the distal end thereof.

1 5. (Cancelled)

1 6. (Currently Amended) A tissue dissector comprising:

2 an elongated cannula having a proximal end and a distal end;

3 a tip having tapered outer walls converging to a blunt end and being
4 disposed on the distal end of the cannula for ~~inserting into~~ dissecting tissue to form
5 a surgical cavity therein;

6 a dilating element disposed on the cannula at a location thereon
7 intermediate the distal and proximal ends thereof and having an outer dimension
8 greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
9 dissected tissue to ~~form a~~ expand the surgical cavity therein; and

10 a locking mechanism positioned near the distal end of the cannula at a
11 location recessed from the tip disposed on the distal end of the cannula, the dilating
12 element comprising a mating lock to mate near the distal end with the locking
13 mechanism for positioning the dilating element on the cannula at a location thereon
14 recessed from the distal end thereof, said locking mechanism further comprising a
15 length of screw threads positioned on the surface of the cannula, and the mating
16 lock of the dilating element further comprising a threaded bore hole for fixably
17 coupling the dilating element to the length of screw threads.

1 7. (Currently Amended) A tissue dissector comprising:

2 an elongated cannula having a proximal end and a distal end;

3 a tip having tapered outer walls converging to a blunt end and being
4 disposed on the distal end of the cannula for ~~inserting into~~ dissecting tissue to form
5 a surgical cavity therein;

6 a dilating element disposed on the cannula at a location thereon
7 intermediate the distal and proximal ends thereof and having an outer dimension
8 greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
9 dissected tissue to ~~form a~~ expand the surgical cavity therein; and

10 a locking mechanism positioned near the distal end of the cannula at a
11 location recessed from the tip disposed on the distal end of the cannula, the dilating
12 element comprising a mating lock to mate near the distal end with the locking
13 mechanism for positioning the dilating element on the cannula at a location thereon
14 recessed from the distal end thereof, said locking mechanism further comprising at
15 least one protuberance and the mating lock of the dilating element further
16 comprising a mating slot for fixably coupling the dilating element to the
17 protuberance.

1 8. (Currently Amended) A tissue dissector comprising:

2 an elongated cannula having a proximal end and a distal end;

3 a tip having tapered outer walls converging to a blunt end for
4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue;

6 a dilating element, of a population of dilating elements having
7 different maximum outer dimensions, disposed on the cannula at a location thereon
8 intermediate the distal and proximal ends thereof and having an outer dimension

greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
dissected tissue to ~~form a~~ expand a surgical cavity therein; and

a locking mechanism positioned near the distal end of the cannula at a
location recessed from the tip disposed on the distal end of the cannula, the dilating
element comprising a mating lock to mate near the distal end with the locking
mechanism for positioning the dilating element on the cannula at a location thereon
recessed from the distal end thereof, the locking mechanism of the cannula being
lockable ~~dissector operating~~ with selected ones of a the population of dilating
elements of differing maximum dimensions for ~~enlarging a~~ expanding the surgical
cavity to differing dimensions.

9. (Currently Amended) A tissue dissector comprising:

an elongated cannula having a proximal end and a distal end;

a tip having tapered outer walls converging to form a blunt end for
dissecting tissue and being disposed on the distal end of the cannula for inserting
into tissue; and

a solid dilating element of fixed outer dimension disposed on the
cannula at a location thereon intermediate the distal and proximal ends thereof; ~~and~~
~~having an~~ the outer dimension of the dilating element being greater than the
dimension of the distal end of the cannula, ~~the dilating element being expansively~~

10 ~~resilient for displacing~~ dilating dissected tissue to ~~form a~~ expand a surgical cavity
11 therein.

1 10. (Currently Amended) A tissue dissector comprising:
2 an elongated cannula, having a proximal end and a distal end;
3 a tip having tapered outer walls converging to a blunt end for
4 dissecting tissue and being disposed on the distal end of the cannula for inserting
5 into tissue;
6 an expansively resilient dilating element ~~disposed on~~ attached to the
7 cannula at a location thereon intermediate the distal and proximal ends thereof and
8 having an outer dimension greater than the dimension of the distal end of the
9 cannula for ~~displacing~~ dilating tissue to ~~form in~~ in a surgical cavity ~~therein~~ formed in
10 tissue; and
11 a sheath slidably ~~positioned~~ retained on the cannula, and having a
12 distal end disposed upon the dilating element in a first position and recessed from
13 the dilating element in a second position, for ~~reducing~~ confining the outer
14 dimension of the dilating element within the sheath ~~responsive to being~~ in the first
15 position and for ~~allowing the~~ releasing resilient expansion of the outer dimension of
16 the dilating element responsive to the sheath being in the second position.

1 11. (Currently Amended) A tissue dissector comprising:
2 an elongated cannula, having a proximal end and a distal end;

a tip having tapered outer walls converging toward a blunt end for
dissecting tissue and being disposed on the distal end of the cannula for inserting
into tissue; and

a dilating element ~~disposed on the cannula at a location thereon~~
~~intermediate the distal and proximal ends thereof and~~ having an outer dimension
greater than the dimension of the distal end of the cannula for ~~displacing~~ dilating
tissue to ~~form a~~ expand a surgical cavity therein; ~~in which the tip and the dilating~~
element ~~form~~ forming a single unit and with a proximal threaded end of the unit
~~comprises a threaded end and the distal end of the cannula has~~ mating with
compatible threads disposed on ~~an inner surface of the distal end of the cannula,~~
~~for allowing the proximal end of the unit to mate with~~ the distal end of the cannula.

12. (Currently Amended) A method for enlarging a surgical cavity
about a target vessel, using a tissue dissector having a portion thereof of solidly
expanded dimension and having a transparent tip with tapered outer walls
positioned at the distal end of the tissue dissector, the method comprising:

incising skin overlaying the target vessel;

dissecting within the incision to expose a surface of the target vessel;

positioning a tapered outer wall of the transparent tip of the tissue

dissector on the surface of the vessel;

9 advancing the tip of the tissue dissection dissector through tissue to
10 form a surgical cavity therein along the vessel under endoscopic visualization
11 through the transparent tip; and

12 simultaneously expanding the surgical cavity in a lateral direction
13 responsive to advancing the portion of the tissue dissector of expanded dimension,
14 ~~as the tissue dissector is advanced~~ through the surgical cavity in dissected tissue.

1 13. (Currently Amended) The method of claim 12 comprising:

2 removing the tissue dissector from the expanded surgical cavity;

3 increasing the dimension of the portion of the tissue dissector of
4 expanded dimension; and

5 re-inserting the tissue dissector into the surgical cavity for
6 advancement therein to expand the dimension thereof in response to passage ~~there~~
7 ~~through~~ therethrough of the portion of the tissue dissector of increased dimension.

1 14. (Currently Amended) A method of dilating tissue along a course of

2 a vessel using a surgical device having a solid dilating element disposed near a
3 tissue-dissecting transparent tapered tip, comprising:

4 incising skin ~~overlying~~ overlaying the vessel in tissue to be dilated;

5 inserting the surgical device into the incision toward the vessel; and

6 advancing the device to dissect a channel through tissue along the
7 course of the vessel and concurrently visualizing the tissue and dilating the

dissected tissue responsive to the advancement of the device through tissue to
expand the channel.

15.-19. (Cancelled)

20. (Currently Amended) A method for enlarging a surgical cavity
about a target vessel, using a tissue dissector having a portion thereof of ~~having a~~
fixed expanded dimension and having a transparent tip with tapered outer walls
converged to a blunt end and positioned at the distal end of the tissue dissector, the
method comprising:

incising skin;

dissecting within the incision to expose a surface of the target vessel;

positioning a tapered outer wall of the transparent tip of the tissue
dissector on the surface of the vessel;

advancing the tip of the tissue ~~dissection~~ dissector through tissue to
form a surgical cavity therein along the vessel under endoscopic visualization
through the transparent tip; and

simultaneously expanding the surgical cavity in a lateral direction
responsive to the portion of the tissue dissector of expanded dimension, as the
tissue dissector is advanced through tissue along the vessel.

1 21. (Currently Amended) A method of dilating tissue using a surgical
2 device having a dilating element of fixed size disposed near a transparent tapered
3 tip, comprising:

4 incising skin overlying tissue to be dilated;

5 inserting the surgical device into the incision; and

6 advancing the device to dissect tissue and concurrently visualizing the
7 tissue and dilating the dissected tissue responsive to the advancement of the device
8 through the tissue.

1 22. (Previously Presented) A handle for an elongated tissue dissection
2 device comprising:

3 an attachment to the dissection device; and

4 a singular hand grip securely supported on the attachment in skewed
5 orientation with respect to the dissection device.

1 23. (Previously Presented) The handle of claim 22, wherein the hand
2 grip is positioned above the tissue dissection device.

1 24. (Previously Presented) The handle of claim 23, in which the hand
2 grip is integrally formed with the attachment.

1 25. (Currently Amended) A handle for a dissection device which has
2 an elongated axis ~~lying in a plane~~, the handle comprising:

3 an attachment to the dissection device; and

4 a hand grip supported on the attachment in an orientation ~~out of the~~
5 ~~plane of~~ including a component eccentric the elongated axis.

1 26. (Previously Presented) The handle of claim 25, in which the hand
2 grip is positioned above the dissection device.

1 27. (Previously Presented) The handle of claim 25, in which the hand
2 grip is integrally formed with the attachment.

1 28. (Currently Amended) An apparatus comprising:
2 an elongated rigid tubular dissection device ~~lying substantially in a~~
3 ~~plane~~ having an elongated axis;
4 an attachment to the dissection device ~~lying outside the plane~~ disposed
5 in skew orientation to the elongated axis; and
6 a hand grip supported on the attachment ~~in an orientation out of the~~
7 ~~plane of the dissection device~~.

1 29. (Previously Presented) The apparatus of claim 28, wherein the hand
2 grip is positioned above the dissection device.

1 30. (Previously Presented) The apparatus of claim 28, wherein the hand
2 grip is integrally formed with the attachment to the dissection device.

1 31. (Previously Presented) The apparatus of claim 28, wherein the
2 attachment overlays a proximal tubular portion of the length of the dissection
3 device.

1 32. (Previously Presented) The apparatus of claim 28, in which the
2 tubular dissection device includes a proximal end disposed to provide access to a
3 lumen of the tubular dissection device through the attachment.

1 33. (Previously Presented) The apparatus of claim 28, in which the
2 attachment includes a portion thereof oriented substantially normal to the tubular
3 dissection device near a proximal end thereof; and
4 the hand grip is formed integrally with the attachment in skewed
5 orientation to said portion thereof.